IN THE CLAIMS

Please cancel claims 1-16 and replace them with claims 17-32 as follows:

1-16. canceled.

17. (new) A semiconductor-layer succession comprising:

- at least one strain-compensating layer for surrounding layer(s) of a semiconductor device;
- the strain-compensating layer(s) are semiconductor-layers strained by tensile stress,
- wherein the layer succession features one or several layers with arsenic and/or phosphorus by use of TBAs sources and/or TBP sources, and
- the layer succession is achieved by means of MOVPE or other deep temperature vapor phase epitaxy methods at a temperature of equal to or less than 600°C.

18. (new) The semiconductor-layer succession according to claim 17, wherein the strain-compensating layers are deposited within layers to be compensated in their individual or common strain.

19. (new) The semiconductor-layer succession according to claim 17, wherein the one or several strain-compensating semiconductor-layers are arranged in an active region of the semiconductor device.

20. (new) The semiconductor-layer succession according to claim 17, wherein at least one of the strain-compensating semiconductor-layers is arranged in an area of semiconductor layers realized as a reflector or one or a multiple layer mirror.

21. An optically pumped semiconductor device for the production of radiation wherein a semiconductor device thereof features one or several of the semiconductor-layer successions according to claim 17.

22. (new) The semiconductor device according to claim 21, wherein the device features at least one quantum well package which features one or two quantum films.

23. (new) A method for the production of semiconductor layer structures wherein strain compensating layer(s) are achieved and compressively or tensilely strained by MOVPE or an other deep temperature vapor phase epitaxy method at a temperature of equal to or less than 600°C by use of TBAs sources or/and TBP sources, preferably tertiarybutylarsine (t-C4H9AsH2) or tertiarybutylphosphine (t-C4H9PH2, TBP) or sources featuring corresponding arsenic alkyl and alkylphosphine compounds.

24. (new) The method according to claim 23, wherein the strain-compensating layers are deposited within layers to be compensated in their individual or common strain.

25. (new) The method according to claim 23, wherein in high aluminum-containing AlGaAs/AlAs layers, slight compressive strain can be tensilely compensated by aluminum due to low concentrations of phosphorus.

26. (new) The method according to claim 23, wherein compression-strained semiconductor layers are compensated for their strain.

27. (new) The semiconductor-layer succession according to claim 18, wherein the one or several strain-compensating semiconductor-layers are arranged in an active region of the semiconductor device.

28. (new) The semiconductor-layer succession according to claim 18, wherein at least one of the strain-compensating semiconductor-layers is arranged in an area of semiconductor layers realized as a reflector or one or a multiple layer mirror.

29. (new) The semiconductor-layer succession according to claim 19, wherein at least one of the strain-compensating semiconductor-layers is arranged in an area of semiconductor layers realized as a reflector or one or a multiple layer mirror.

30. (new) An optically pumped semiconductor device for the production of radiation, wherein the semiconductor device features one or several of the semiconductor-layer successions according to claim 18.

31. (new) An optically pumped semiconductor devices for the production of radiation, wherein the semiconductor device features one or several of the semiconductor-layer successions according to claim 19.

32. (new) An optically pumped semiconductor devices for the production of radiation, wherein the semiconductor device features one or several of the semiconductor-layer successions according to claim 20.